SEQUENCE LISTING

(1) GENERAL INFORMATION:

    (i) APPLICANT: MAX-PLANCK-GESELLSCH
                                WISSENSCHAFTEN E.V.
                                Hofgarten-Strasse 2,
                                Munich, Germany 80539

    (ii) TITLE OF INVENTION: NOVEL PTP20, PCP-2,
BDP1, CLK,

RELATED   AND SIRP PROTEINS AND

                                PRODUCTS AND METHODS

    (iii) NUMBER OF SEQUENCES: 30

    (iv) CORRESPONDENCE ADDRESS:

        (A)   ADDRESSEE: Lyon & Lyon
        (B)   STREET: 633 West Fifth Street
                                Suite 4700
        (C)   CITY: Los Angeles
        (D)   STATE: California
        (E)   COUNTRY: U.S.A.
        (F)   ZIP: 90071-2066

    (v) COMPUTER READABLE FORM:

        (A)   MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
                                storage
        (B)   COMPUTER: IBM Compatible
        (C)   OPERATING SYSTEM: IBM P.C. DOS 5.0
        (D)   SOFTWARE: FastSEQ for Windows 2.0

    (vi) CURRENT APPLICATION DATA:

        (A)   APPLICATION NUMBER: TO BE ASSIGNED

```
(B)  FILING DATE:              HEREWITH
(C)  CLASSIFICATION:
```

(vii) PRIOR APPLICATION DATA:

```
(A)  APPLICATION NUMBER:   U.S. 60/019,629
(B)  FILING DATE:          June 17, 1996

(A)  APPLICATION NUMBER:   U.S. 60/023,485
(B)  FILING DATE:          August 9, 1996

(A)  APPLICATION NUMBER:   U.S. 60/030,860
(B)  FILING DATE:          November 13, 1996

(A)  APPLICATION NUMBER:   U.S. 60/030,964
(B)  FILING DATE:          November 15, 1996

(A)  APPLICATION NUMBER:   U.S. 60/034,286
(B)  FILING DATE:          December 19, 1996
```

(viii) ATTORNEY/AGENT INFORMATION:

```
(A)  NAME:                    Warburg, Richard J.
(B)  REGISTRATION NUMBER:     32,327
(C)  REFERENCE/DOCKET NUMBER: 225/298-PCT
```

(ix) TELECOMMUNICATION INFORMATION:

```
(A)  TELEPHONE:            (213) 489-1600
(B)  TELEFAX:              (213) 955-0440
(C)  TELEX:                67-3510
```

(2) INFORMATION FOR SEQ ID NO: 1:

(i) SEQUENCE CHARACTERISTICS:

```
(A)  LENGTH:        6 amino acids
(B)  TYPE:          amino acid
```

```
        (C)   STRANDEDNESS:   single
        (D)   TOPOLOGY:       linear

  (ii)  MOLECULE TYPE:        peptide

  (ix)  FEATURE:

        (D)   OTHER INFORMATION:    "Xaa" in positions 3 and 5
stands
                                    for an unspecified amino
acid.

  (xi)  SEQUENCE DESCRIPTION: SEQ ID NO:  1:

 Phe Trp Xaa Met Xaa Trp
  1               5
```

```
(2)   INFORMATION FOR SEQ ID NO:  2:

  (i)   SEQUENCE CHARACTERISTICS:

        (A)   LENGTH:         7 amino acids
        (B)   TYPE:           amino acid
        (C)   STRANDEDNESS:   single
        (D)   TOPOLOGY:       linear

  (ii)  MOLECULE TYPE:        peptide

  (ix)  FEATURE:

        (D)   OTHER INFORMATION:    "Xaa" in position 6 stands
for
                                    either Ser, Ile or Val.

  (xi)  SEQUENCE DESCRIPTION: SEQ ID NO:  2:

 His Cys Ser Ala Gly Xaa Gly
  1               5
```

```
(2)   INFORMATION FOR SEQ ID NO:  3:

  (i)   SEQUENCE CHARACTERISTICS:
```

```
        (A)   LENGTH:           6 amino acids
        (B)   TYPE:             amino acid
        (C)   STRANDEDNESS:     single
        (D)   TOPOLOGY:         linear

   (ii)   MOLECULE TYPE:       peptide

   (xi)   SEQUENCE DESCRIPTION: SEQ ID NO:  3:

 Phe Leu Glu Arg Leu Glu
  1               5
```

(2)   INFORMATION FOR SEQ ID NO: 4:

```
   (i)   SEQUENCE CHARACTERISTICS:

        (A)   LENGTH:           6 amino acids
        (B)   TYPE:             amino acid
        (C)   STRANDEDNESS:     single
        (D)   TOPOLOGY:         linear

   (ii)   MOLECULE TYPE:    .  peptide

   (ix)   FEATURE:

        (D)   OTHER INFORMATION:    "Xaa" in positions 3 and 5
stands
                                for an unspecified amino
acid.

   (xi)   SEQUENCE DESCRIPTION: SEQ ID NO:  4:

 Arg Trp Xaa Met Xaa Trp
  1           '    5
```

(2)   INFORMATION FOR SEQ ID NO:· 5:

```
   (i)   SEQUENCE CHARACTERISTICS:

        (A)   LENGTH:           7 amino acids
        (B)   TYPE:             amino acid
        (C)   STRANDEDNESS:     single
        (D)   TOPOLOGY:         linear
```

(ii)   MOLECULE TYPE: peptide

(ix)   FEATURE:

    (D)   OTHER INFORMATION: "Xaa" in position 6 stands

for

                 either Ser, Ile or Val.

(xi)   SEQUENCE DESCRIPTION: SEQ ID NO: 5:

His Cys Ser Ala Gly Xaa Gly
 1   5

(2)   INFORMATION FOR SEQ ID NO: 6:

    (i)   SEQUENCE CHARACTERISTICS:

        (A)   LENGTH: 27 base pairs
        (B)   TYPE: nucleic acid
        (C)   STRANDEDNESS: single
        (D)   TOPOLOGY: linear

    (xi)   SEQUENCE DESCRIPTION: SEQ ID NO: 6:

CTCTGTGTCC ACAGCAGTGC TGGCTGT   27

(2)   INFORMATION FOR SEQ ID NO: 7:

    (i)   SEQUENCE CHARACTERISTICS:

        (A)   LENGTH: 7 amino acids
        (B)   TYPE: amino acid
        (C)   STRANDEDNESS: single
        (D)   TOPOLOGY: linear

    (ii)   MOLECULE TYPE: peptide

    (xi)   SEQUENCE DESCRIPTION: SEQ ID NO: 7:

His Arg Asp Leu Ala Ala Arg

1   5

(2)   INFORMATION FOR SEQ ID NO: 8:

    (i)   SEQUENCE CHARACTERISTICS:

        (A)   LENGTH: 6 amino acids
        (B)   TYPE: amino acid
        (C)   STRANDEDNESS: single
        (D)   TOPOLOGY: linear

    (ii) MOLECULE TYPE: peptide

    (ix) FEATURE:

        (D)   OTHER INFORMATION: "Xaa" in position 2 stands
for
                                 . Val or Met. "Xaa" in
position
                                   5 stands for Tyr or Phe.

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 8:

 Asp Xaa Trp Ser Xaa Gly
 1   5

(2)   INFORMATION FOR SEQ ID NO: 9:

    (i)   SEQUENCE CHARACTERISTICS:

        (A)   LENGTH: 28 base pairs
        (B)   TYPE: nucleic acid
        (C)   STRANDEDNESS: single
        (D)   TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 9:

 CGGGATCCCT TCGCCTTGCA GCTTTGTC   28

(2)   INFORMATION FOR SEQ ID NO: 10:

(i)   SEQUENCE CHARACTERISTICS:

    (A)   LENGTH: 30 base pairs
    (B)   TYPE: nucleic acid
    (C)   STRANDEDNESS: single
    (D)   TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 10:

CGGAATTCCT AGACTGATAC AGTCTGTAAG   30

(2)   INFORMATION FOR SEQ ID NO: 11:

  (i)   SEQUENCE CHARACTERISTICS:

    (A)   LENGTH: 6 amino acids
    (B)   TYPE: amino acid
    (C)   STRANDEDNESS: single
    (D)   TOPOLOGY: linear

  (ii) MOLECULE TYPE: peptide

  (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 11:

Asp Leu Lys Pro Glu Asn
 1   5

(2)   INFORMATION FOR SEQ ID NO: 12:

  (i)   SEQUENCE CHARACTERISTICS:

    (A)   LENGTH: 6 amino acids
    (B)   TYPE: amino acid
    (C)   STRANDEDNESS: single
    (D)   TOPOLOGY: linear

  (ii) MOLECULE TYPE: peptide

  (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 12:

Ala Met Met Glu Arg Ile

1   5

(2)   INFORMATION FOR SEQ ID NO: 13:

    (i)   SEQUENCE CHARACTERISTICS:

        (A)   LENGTH: 30 base pairs
        (B)   TYPE: nucleic acid
        (C)   STRANDEDNESS: single
        (D)   TOPOLOGY: linear

    (xi)   SEQUENCE DESCRIPTION: SEQ ID NO: 13:

TATAGCGGCC GCTAGACTGA TACAGTCTGT   30

(2)   INFORMATION FOR SEQ ID NO: 14:

    (i)   SEQUENCE CHARACTERISTICS:

        (A)   LENGTH: 32 base pairs
        (B)   TYPE: nucleic acid
        (C)   STRANDEDNESS: single
        (D)   TOPOLOGY: linear

    (xi)   SEQUENCE DESCRIPTION: SEQ ID NO: 14:

TCCCCCGGGA TGCCCCATCC CCGAAGGTAC CA   32

(2)   INFORMATION FOR SEQ ID NO: 15:

    (i)   SEQUENCE CHARACTERISTICS:

        (A)   LENGTH: 39 base pairs
        (B)   TYPE: nucleic acid
        (C)   STRANDEDNESS: .single
        (D)   TOPOLOGY: linear

    (xi)   SEQUENCE DESCRIPTION: SEQ ID NO: 15:

TATAGCGGCC GCTCACCGAC TGATATCCCG ACTGGAGTC   39

(2)   INFORMATION FOR SEQ ID NO: 16:

    (i)   SEQUENCE CHARACTERISTICS:

        (A)   LENGTH: 30 base pairs
        (B)   TYPE: nucleic acid
        (C)   STRANDEDNESS: single
        (D)   TOPOLOGY: linear

    (xi)   SEQUENCE DESCRIPTION: SEQ ID NO: 16:

TCCCCCGGGG AGACGATGCA TCACTGTAAG   30

(2)   INFORMATION FOR SEQ ID NO: 17:

    (i)   SEQUENCE CHARACTERISTICS:

        (A)   LENGTH: 39 base pairs
        (B)   TYPE: nucleic acid
        (C)   STRANDEDNESS: single
        (D)   TOPOLOGY: linear

    (xi)   SEQUENCE DESCRIPTION: SEQ ID NO: 17:

TATAGCGGCC GCGCTGGCCT GCACCTGTCA TCTGCTGGG   39

(2)   INFORMATION FOR SEQ ID NO: 18:

    (i)   SEQUENCE CHARACTERISTICS:

        (A)   LENGTH: 30 base pairs
        (B)   TYPE: nucleic acid
        (C)   STRANDEDNESS: single
        (D)   TOPOLOGY: linear

    (xi)   SEQUENCE DESCRIPTION: SEQ ID NO: 18:

CGGAATTCAT GCGGCATTCC AAACGAACTC   30

(2)   INFORMATION FOR SEQ ID NO: 19:

    (i)   SEQUENCE CHARACTERISTICS:

        (A)   LENGTH: 39 base pairs
        (B)   TYPE: nucleic acid
        (C)   STRANDEDNESS: single
        (D)   TOPOLOGY: linear

    (xi)   SEQUENCE DESCRIPTION: SEQ ID NO: 19:

TATAGCGGCC GCCCTGACTC CCACTCATTT CCTTTTTAA   39

(2)   INFORMATION FOR SEQ ID NO: 20:

    (i)   SEQUENCE CHARACTERISTICS:

        (A)   LENGTH: 36 base pairs
        (B)   TYPE: nucleic acid
        (C)   STRANDEDNESS: single
        (D)   TOPOLOGY: linear

    (xi)   SEQUENCE DESCRIPTION: SEQ ID NO: 20:

CGGAATTCCG CCACCATGGC CCCTATACTA GGTTAT   36

(2)   INFORMATION FOR SEQ ID NO: 21:

    (i)   SEQUENCE CHARACTERISTICS:

        (A)   LENGTH: 36 base pairs
        (B)   TYPE: nucleic acid
        (C)   STRANDEDNESS: single
        (D)   TOPOLOGY: linear

    (xi)   SEQUENCE DESCRIPTION: SEQ ID NO: 21:

GCCAAGCTTG CCACCATGGC CCCTATACTA GGTTAT   36

(2)   INFORMATION FOR SEQ ID NO: 22:

    (i)   SEQUENCE CHARACTERISTICS:

        (A)   LENGTH: 21 base pairs
        (B)   TYPE: nucleic acid
        (C)   STRANDEDNESS: single
        (D)   TOPOLOGY: linear

    (xi)   SEQUENCE DESCRIPTION: SEQ ID NO: 22:

GTAGCAGTAA GAATAGTTAA A   21

(2)   INFORMATION FOR SEQ ID NO: 23:

    (i)   SEQUENCE CHARACTERISTICS:

        (A)   LENGTH: 24 base pairs
        (B)   TYPE: nucleic acid
        (C)   STRANDEDNESS: single
        (D)   TOPOLOGY: linear

    (xi)   SEQUENCE DESCRIPTION: SEQ ID NO: 23:

GTTGCCCTGA GGATCATTAA GAAT   24

(2)   INFORMATION FOR SEQ ID NO: 24:

    (i)   SEQUENCE CHARACTERISTICS:

        (A)   LENGTH: 24 base pairs
        (B)   TYPE: nucleic acid
        (C)   STRANDEDNESS: single
        (D)   TOPOLOGY: linear

    (xi)   SEQUENCE DESCRIPTION: SEQ ID NO: 24:

GTTGCCCTGA GGATCATCCG GAAT   24

(2)   INFORMATION FOR SEQ ID NO: 25:

    (i)   SEQUENCE CHARACTERISTICS:

          (A)   LENGTH: 30 base pairs
          (B)   TYPE: nucleic acid
          (C)   STRANDEDNESS: single
          (D)   TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 25:

TACAATTCTC ACTGCTACAT GTAAGCCATC   30

(2)   INFORMATION FOR SEQ ID NO: 26:

    (i)   SEQUENCE CHARACTERISTICS:

          (A)   LENGTH: 13 amino acids
          (B)   TYPE: amino acid
          (C)   STRANDEDNESS: single
          (D)   TOPOLOGY: linear

    (ii) MOLECULE TYPE: peptide

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 26:

Pro Ile Tyr Ser Phe Ile Gly Gly Glu His Phe Pro Arg
 1   5   10

(2)   INFORMATION FOR SEQ ID NO: 27:

    (i)   SEQUENCE CHARACTERISTICS:

          (A)   LENGTH: 9 amino acids
          (B)   TYPE: amino acid
          (C)   STRANDEDNESS: single
          (D)   TOPOLOGY: linear

(ii)   MOLECULE TYPE: peptide

(xi)   SEQUENCE DESCRIPTION: SEQ ID NO: 27:

Ile Val Glu Pro Asp Thr Glu Ile Lys
1   5

(2)   INFORMATION FOR SEQ ID NO: 28:

    (i)   SEQUENCE CHARACTERISTICS:

        (A)   LENGTH: 6 amino acids
        (B)   TYPE: amino acid
        (C)   STRANDEDNESS: single
        (D)   TOPOLOGY: linear

    (ii)   MOLECULE TYPE: peptide

    (xi)   SEQUENCE DESCRIPTION: SEQ ID NO: 28:

Tyr Gly Phe Ser Pro Arg
1   5

(2)   INFORMATION FOR SEQ ID NO: 29:

    (i)   SEQUENCE CHARACTERISTICS:

        (A)   LENGTH: 12 amino acids
        (B)   TYPE: amino acid
        (C)   STRANDEDNESS: single
        (D)   TOPOLOGY: linear

    (ii)   MOLECULE TYPE: peptide

    (xi)   SEQUENCE DESCRIPTION: SEQ ID NO: 29:

Ile Lys Glu Val Ala His Val Asn Leu Glu Val Arg
1   5   10

(2)   INFORMATION FOR SEQ ID NO: 30:

        (i)   SEQUENCE CHARACTERISTICS:

                (A)   LENGTH: 8 amino acids
                (B)   TYPE: amino acid
                (C)   STRANDEDNESS: single
                (D)   TOPOLOGY: linear

        (ii)   MOLECULE TYPE: peptide

        (xi)   SEQUENCE DESCRIPTION: SEQ ID NO: 30:

Val Ala Ala Gly Asp Ser Ala Thr
1   5